

REMARKS/ARGUMENTS

Applicant graciously appreciates the Office's attention to the instant application. In view of the following remarks, Applicant respectfully requests reconsideration and allowance of the subject application. This amendment is  
5 believed to be fully responsive to all issues raised in the October 6, 2005 Office Action.

As explained above, claims 1, 8, 13 and 18 are currently amended, claims 22-25 are new and claims 1-25 are pending.

10 In the Claims

*Rejection under §112, ¶2: Claim 8*

The Office rejected claim 8 under §112, ¶2. Applicant currently amends claim 8 to correct an inadvertent typographical error. More specifically, claim 8 is currently amended to introduce "of" between "mechanism" and "a joint".

15 Applicant submits that claim 8 satisfies the requirements of §112, ¶2.

*Rejection under §102(b): Claims 1, 3, 6, 12 and 13*

The Office rejected claims 1, 3, 6, 12 and 13 as being anticipated by Joco (USPN 4,944,660), referred to herein as the Joco reference. Under  
20 U.S.C. §102(b) "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" (MPEP §2131).

Applicant currently amends independent claim 1 to more particularly recite subject matter of the instant application. As currently amended, claim 1  
25 recites, in part: "*an attachment mechanism . . . wherein the attachment mechanism allows for removal of the shield prior to fitting an operational shaft to the boreless compressor wheel*".

Applicant submits that the Joco reference does not disclose the subject matter of claim 1. In contrast, the Joco reference discloses a cast-in or welded-  
30 in nut member 60 that receives an operational shaft 16 (see, e.g., col. 3, lines

55-61). Claims 3, 6 and 12 depend on claim 1 and are believed patentable for at least the same reason as claim 1.

Applicant currently amends claim 13 to recite "*an attachment mechanism . . . wherein the attachment mechanism allows for removal of the shield prior to fitting an operational shaft to the boreless compressor wheel*". Applicant  
5 submits that claim 13 is now patentable over the Joco reference.

*Rejection under §102(e): Claims 1, 3, 6, 12 and 13*

The Office rejected claims 1, 3, 6, 12 and 13 as being anticipated by  
10 Heyes et al. (USPN 6,948,913), referred to herein as the Heyes reference. Applicant respectfully directs the Office to the discussion above regarding the §102(b) rejection of these claims. Applicant submits that the Heyes reference does not disclose the recited "*attachment mechanism that allows for removal of the shield prior to fitting an operational shaft to the boreless compressor wheel*".  
15 In contrast, the Heyes reference discloses an insert 3 that cooperates with an operational shaft 2 (col. 3, lines 17-28).

*Rejection under §103(a): Claims 10 and 15-21*

The Office rejected claims 10 and 15-21 as being obvious over the Joco  
20 reference in view of Norton et al. (USPN 6,164,931), referred to herein as the Norton reference. To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference  
25 teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. MPEP §2142.

*Claim 10*

Claim 10 depends on claim 1, which is currently amended. Applicant respectfully directs the Office to the discussion of the §102(b) rejection and the Joco reference. Applicant submits that claim 10 is patentable over the Joco  
5 reference in view of the Norton reference for at least this reason.

*Claims 15-17*

Claim 15 recites: *A boreless compressor wheel comprising a joint that includes an end surface at least partially treated by a cold working process.*

10 Applicant submits that claim 15 is patentable over the Joco reference in view of the Norton reference.

MPEP §2145 states that it is improper to combine references where the references teach away from their combination. More specifically, MPEP §2141.02 states “[a] prior art reference must be considered in its entirety, i.e.,  
15 as a whole, including portions that would lead away from the claimed invention”. MPEP §2141.02 indicates that evidence in support of such a finding may be in the form of criticism, discrediting or otherwise discouraging the solution claimed.

The Norton reference states at col. 1, lines 39-49:

20 In U.S. Pat. No. 4,705,463, issued to Fidel M. Joco on Nov. 10, 1986 the bore of the compressor wheel is nearly eliminated. Instead, the shaft threads into a counter bore. Using the counter bore reduces the stress risers present due to the bore and process of casting such bore. The compressor wheel of this invention has a longer life. However, alignment of the shaft with the wheel,  
25 assembly, and servicing of compressors using this invention may be more difficult and expensive.

The present invention is directed to overcoming one or more of the problems as set forth above.  
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The Norton reference thus discloses a patent issued to Joco for the purposes of discouraging use of a compressor wheel where the bore is “nearly eliminated” and a “counter bore” used. Applicant submits that the Joco reference relied on by the Office discloses such a “counter bore”. Given the

discouraging statement of the Norton reference, Applicant submits that one of ordinary skill in the art would not combine the Norton reference and the Joco reference and arrive at the subject matter of claim 15.

Further, the Norton reference does not identify or suggest the problem addressed by the subject matter of claim 15. The Norton reference infers that the cast, "counter bore" compressor wheel of the Joco patent (USPN 4705463) needs no stress reduction treatment ("Using the counter bore reduces the stress risers present due to the bore and process of casting such bore"). Applicant asserts that the same logic applies to the "counter bore" compressor wheel of the Joco reference relied on by the Office in rejecting claim 15.

For at least the foregoing reasons, Applicant submits that claim 15 and its dependent claims (claims 16 and 17) are patentable over the Joco reference in view of the Norton reference.

15 *Claims 18-21*

Claim 18 as currently amended recites:

*A method comprising:*

*inserting a shield at least partially in a joint of a boreless compressor wheel;*

20 *treating, at least partially, an end surface of the joint to thereby reduce fatigue of the boreless compressor wheel; and*

*removing the shield from the joint.*

Applicant submits that the Joco reference and the Norton reference do not teach or suggest the subject matter of claim 18. In particular, the Joco reference does not disclose, teach or suggest removal of the nut member 60 from the compressor wheel. Claims 19-21 depend on claim 18 and are believed patentable for at least this reason.

30 *Rejection under §103(c): Claims 7, 10 and 14-21*

The Office rejected claim 7, 10 and 14-21 under §103(a) or §103(c), as the Office uses the Heyes reference under §102(e).

*Claims 7, 10 and 14*

5           Claims 7 and 10 depend from claim 1 and claim 14 depends from claim 13. Claims 1 and 13 recite "*wherein the attachment mechanism allows for removal of the shield prior to fitting an operational shaft to the boreless compressor wheel*". As discussed above, the Heyes reference does not disclose, teach or suggest such a shield. For at least this reason, Applicant  
10       submits that claims 7, 10 and 14 are patentable over the Heyes reference in view of the Norton reference. Further, Applicant submits that the Norton reference teaches away from use of boreless compressor wheels.

*Claims 15-17*

15           Applicant respectfully directs the Office to the evidence and argument in response to the rejection over the Joco reference in view of the Norton reference. Applicant submits that the Norton reference teaches away from use of boreless compressor wheels and that claims 15-17 are patentable over the Heyes reference in view of the Norton reference.

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*Claims 18-21*

          Applicant respectfully directs the Office to the evidence and argument in response to the rejection over the Joco reference in view of the Norton reference. Applicant submits that the Heyes reference does not disclose, teach  
25       or suggest removal of the insert 3 from the compressor wheel and that, for at least this reason, claims 18-21 are patentable over the Heyes reference in view of the Norton reference.

Allowable Subject Matter

30           The Office objected to claims 2, 4, 5 and 9 as being dependent on a rejected base claim, but otherwise allowable if rewritten in independent form.

Applicant presents new claims 22-25 that correspond to claims 2, 4, 5 and 9, respectively.

Conclusion

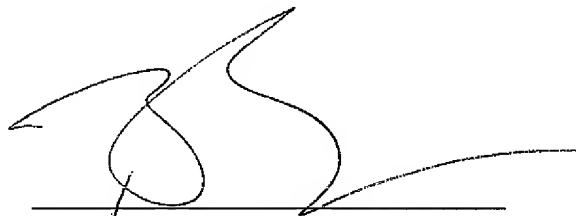
5           Claims 1-25 are pending and believed to be in condition for allowance. Should any issue remain that prevents allowance and immediate issuance of the instant application, the Examiner is encouraged to contact the undersigned attorney to discuss the unresolved issue.

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Respectfully Submitted,  
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Dated: 1/6/06

A handwritten signature in black ink, appearing to read 'BP', is written over a horizontal line.

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